IOFE, N.Sh.

Building up breeding stocks of meat-type chickens on collective
and state farms. Ptitsevodstvo 9 no.9:18-21 S '59.
(MIRA 12:12)

1. Starshiy zootekhnik Glavnoy inspektsii zhivotnovodstva
Ministerstva sel'skogo khozyaystva SSSR.
           (Poultry)

ARSENSHVILI, A.Yu.; BOGDANOV, M.N.; GORIZONTOVA, Ye.A.; YERSHOVA, Ye.I.;
    YELENBAUM, N.I.; IOFE, M.Sh.; KARAVAYEV, A.M.;KOLOBOV, G.M.;
    LOBIN, N.V., kand. sel'khoz. nauk; KUSHNER, Kh.F., doktor biolog.
    nauk; MISHIN, P.N.; PATRIK, I.A., kand. sel'khoz. nauk; REDIKH,
    V.K., kand. sel'khoz. nauk; SEMTNEV, S.I., akademik; SAMOLETOV,
    A.I.; FILASOV, V.V.; SHKUDOVA, R.I.; SOKOLOVA, G.S., red.;
    ROMANOVICH, Ye.F., red.; LEVINA, L.G., tekhn. red.

[Chickens for meat] TSypliata na miaso. Moskva, Izd-vo M-va
sel'.khoz. RSFSR, 1960. 197 p.   (MIRA 15:1)
                    (Poultry)

BOGDANOV, Mikhail Nikolayevich; IOFE, Nokhm Shleymovich; DOBYCHINA, I.N.,
    red.; TRUKHINA, O.N., tekhn. red.

[Raising chiken for meat] Vyrashchivanie miasnykh tsypliat. Mo-
skva, Gos.izd-vo sel'khoz.lit-ry, 1961. 87 p.   (MIRA 15:1)
                        (Poultry)

Influence of salt and sulfate on window-glass crystallization. A. P. Zak and
S. I. Iova. Keram. i Steklo 7, No. 4, 23-5(1931).—Sulfates and chlorides present
in a batch do not affect the process of fusing and degasification in a harmful way; on
the contrary, they quicken the process. But the introduction of chloride into the batch
in a quantity exceeding 3% sometimes causes a dimming of the glass. Since natural
soda, often contg. impurities in the form of sulfate and chloride, is used in the glass
industry, the study of the influence of these impurities on glass crystn. is of great im-
portance. The introduction of NaCl 0.5-5% and of Na₂SO₄ 0.5-8% does not influence
the speed of crysta. at 800-1000°. The introduction of these impurities, in the given
quantities, does not create any phenomenon of opalescence or of increasing crysta.
M. V. Kondoldt .

IOFE, S.I.

Ca

19

Cooling of glass. S. O. Lheznyanskaya and S. I. Iofe. *Nauch.-Issledovatel. Inst. Stekla* No. 1, SYMBOLS ATKS-113(1934).—A detailed discussion is given of (1) methods used for detg. the cooling temp. of glass; (2) effect of oxides forming glass on the cooling temp.; (3) calcg. the cooling temp. from the glass compn.; (4) rate of cooling dependent on the thickness of the glass; (5) supervising glass cooling; (6) polariscope studies; (7) thermal supervision; (8) properties of cooled and hardened glasses; (9) effect of cooling on some physico-chem. properties of glass. Numerous tables and an index of literature accompany the discussion.   M. V. K.

BUROV, A.K., dektor tekhnicheskikh nauk; ANDREYEVSKAYA, G.D., kandidat
tekhnicheskikh nauk; CHMUTOV, K.V., redakter; IOFE, S.I., re-
dakter; ZELENKOVA, Ye.V., tekhnicheskiy redakter.

[Anisotropic glass-fiber materials and their technical use]
Steklovoloknistye anizotropaye materialy i ikh tekhnicheskee
primenenie. Moskva, Izd-vo Akademii nauk SSSR, 1956. 69 p.
(MIRA 9:6)

1.Chlen-korrespondent AN SSSR (for Chmutev)
(Glass fiber)

AUTHORS: Pik, I. Sh., Zaytseva, A. M.,   64-58-2-13/16
in Collaboration With Iofe, S. S.

TITLE: Intensification of the Process of Pressing Aminoplastics
(Intensifikatsiya protsessa pressovaniya aminoplastov)

PERIODICAL: Khimicheskaya Promyshlennost', 1958, Nr 2, pp. 54-56
(USSR)

ABSTRACT: In the below mentioned plant for plastics it was decided
upon to introduce a differentiation of the pressing expo-
sure, a tableting, high-frequency heating as well as higher
temperatures and lower specific pressure in the pressing of
aminoplastics for the purpose mentioned in the title.
Corresponding to the mentioned hardening velocities it was
found that the use of differentiated exposures gives the
possibility of increasing the productivity by 6%. The
tableting carried out with the investigated aminoplas-
tics showed that at various temperatures of pressing a
shortening of the exposure could be obtained. Then it is
pointed out that the tableting of aminoplastics must be
Card 1/3   improved, and besides it was mentioned that tableting

Intensification of the Process of Pressing   64-58-2-13/16
Aminoplastics

can cause unfavorable phenomena in some articles. The use
of high-frequency current for heating aminoplastics sho-
wed that also a considerable shortening of the period of
pressing exposure was achieved, no degradation of the
physico-chemical and physico-mechanical properties,respec-
tively, of finished products having been observed. The
investigations of the influence of the pressing temperatu-
re showed that the shortest period of pressing exposure
is at $150 \pm 3^{\circ}$C, differentiations being mentioned referring
to the quality and individual properties,respectively, of
the finished product. Data in tables are given on the
results obtained just as well as investigations of the
quality of the finished product. The experiments carried
out at various specific pressure (265, 250, 200 and 100
kg/cm^2) yielded positive results with the exception of
the last lowest value at which the sample showed a pad
after the experiment. It is recommended to employ the a-
bove mentioned ideas; at the same time it is necessary to

Card 2/3   carry out a reinforcement of the presses as well as the

Intensification of the Process of Pressing   64-58-2-13/16
Aminoplastics

supply of the high-frequency plants with control appa-
ratus, an improvement of the quality and a standardi-
zation of the aminoplastics.
There are 5 tables and 0 references.

ASSOCIATION: Karacharovskiy zavod plastmass   (Plant
for Plastics)

AVAILABLE: Library of Congress

1. Plastics--Processing   2. Plastics--Temperature factors
3. Plastics--Electrical factors   4. Materials--Production

Card 3/3

IOFE, V. K.

19914   IOFE, V. K.

....K.voprosy ob elektroakustike padioveshchate l'nykh priyemnikov

(Po povody stat; V. A. Govyadinova <<Elektroakustika radioveschatel'nyth

priyemnikov>>zhurn.<<radiotekhnika,>>1948, #6) diotekhnika, 1949, #3,

s. 69-72

So: Letopis Zhurnal Statey, Vol. 27, Moskva, 1949

IOFE, V. ⌐K⌐

20707. Iofe, V. i Godzevskiy, A. Kakim Dolzhen byt' vysokokachestvennyy priyemnik.
∕‾Po povodu odnoim. stat' i A. Frolova v zhurn. "Radio", 1948, No. 12_∕. Radio, 1949
No. 6, s. 14-16

SO: LETOPIS ZHURNAL STATEY - Vol. 28, Moskva, 1949

IOFE, V. K.;   SAPOZHKOV, M. A.

Speech

Problem of the methodology of computing comprehensibility of speech,   Trudy Kom. op.
akust, No. 6, 1951.

9. Monthly List of Russian Accessions, Library of Congress, ____May____ 1953. Unclassified.

IOFE, Viktor Kivovich; PAPERNOV, L.Z., redaktor; MARTSINKEVICH, T.M., redaktor; SOKOLOVA, R.Ya., tekhnicheskiy redaktor

[Electroacoustics] Elektroakustika. Moskva, Gos. izd-vo lit-ry po voprosam sviazi i radio, 1954. 182 p.   (MIRA 8:1)
        (Electroacoustics)

IOFE, VIKTOR K.

Call Nr: TK 5981.154

BOOK:

AUTHOR: Iofe, Viktor K.

TITLE: Electroacoustics (Elektroakustika)

PUB. DATA: Gosudarstvennoye izdatel'stvo literatury po voprosam svyazi i
             radio, Moscow, 1954, 184 pp., 20,000 copies

ORIG, AGENCY: None given

EDITORS: Responsible Ed.: Papernov, L. Z., Editor: Martsinkevich, T. M.,
             Tech. Ed.: Sokolova, R. Ya., Corrector: Dik, I. A.

PURPOSE: Approved by the Main Administration of Educational Institutions of
             the Ministry of Communications as a textbook on electroacoustics
             for students of communication tekhnikums.

COVERAGE: The book presents principles of acoustics; production and trans-
             mission of sound, sources and receivers of sound; mechanism of
             microphones, loudspeakers, telephones, and sound recording and re-
             production. The book contains Russian contributions; no personalities
Card 1/5   mentioned. There are 18 references, all of which are USSR.

Electroacoustics (Elektreakustika) (cont.)   Call Nr: TK 5981.154

TABLE OF CONTENTS

Card 2/5

Electroacoustics (Elektreakustika) (Cont.)

Card 3/5

Electroacoustics (Elektroakustika) (Cont.)

Card 4/5

Electroacoustics (Elektroakustika) (Cont.)   Call No. TK 5981.154

IOFE, V.K.; YANPOL'SKIY, A.A.; VARSHAVSKIY, L.A., redaktor; VORONETSKAYA, L.V., tekhnicheskiy redaktor.

[Diagrams and tables for calculations in electroacoustics] Raschetnye grafiki i tablitsy po elektroakustike. Moskva, Gos. energ. izd-vo, 1954. 522 p.   (MIRA 8:1)
           (Electroacoustics)

$\mathcal{I} \mathit{OFE}$, $V. K.$

Category : USSR/Acoustics - Physiological Acoustics. Speech and Singing   J-8

Abs Jour : Ref Zhur - Fizika, No 2, 1957, No 4815

Author   : Iofe, V.K.
Title   : Design of Transmission Channels with Limited Power for Articulation.

Orig Pub : Tr. Vses, n.-f in-ta radioveshchat. priema i akust., 1955, vyp. 5,
           16-23

Abstract : The dependence of the coefficient of perception of the i'th equal-
           articulation band p_i on the level E'_f of the formant sensation is re-
           presented by a curve having a varying slope. Therefore, equal in-
           crements in E'_f cause different increments in p_i, depending on the
           initial value of E'_f, which, other conditions being equal, depends
           on the frequency location of the band. If the channel has limited
           power, it is convenient to distribute the power among the bands in
           such a way as to obtain a maximum sum of p_i over the entire range.
           To calculate the channel, the following equation is derived

           $$E'_{\beta} = 10 \log \Delta N_i + Q$$

           where ΔN_i is the power applied to the loudspeaker in the given band,
           and Q a certain constant for the given band and for the given channel,

Card   : 1/2

Category : USSR/Acoustics - Physiological Acoustics. Speech and Singing   J-8

Abs Jour : Ref Zhur - Fizika, No 2, 1957, No 4815

expressed in decibels. Analytical calculation is possible only for the case of two bands. The trial and error method is recommended in which Q is determined for each band and the possible power is gradually applied in equal shares to each band; E'_i and P_i are then calculated; it is determined in what bands the subsequent additions of power are most effective. The result is an establishment of the most suitable distribution.

Card   : 2/2

DNEPROVSKAYA, I.A.; IOFE, V.K.; LEVITAS, F.I.

Attenuation of sound propagated in the atmosphere. Akust.zhur.
8 no.3:301-307 '62.   (MIRA 15:11)

1. Gosudarstvennyy soyuznyy nauchno-issledovatel'skiy institut
radioveshchatel'nogo priyema i akustiki im. A.S.Popova, Leningrad.
                    (Atmospheric acoustics)

IOFE, Ya.

Disappearing seasonal production. Mias. ind. SSSR 29 no.5:26-27
'58.
(MIRA 11:10)

1. Glavnyy inzhener upravleniya myasnoy i molochnoy promyshlen-
nosti Vinnitskogo sovnarkhoza.
(Vinnitsa--Packing houses)

IOFE, Yu.M.

BTR

22

9179*   A Method of Measuring the Thermal Conductivity
of Ceramic Materials. (In Russian.) I. A. Al'perovich and Iu
M. Iofe, Steklo i Keramika, v. 8, Dec, 1951, p. 21-23.
Equipment and procedure for the above are described. Data
are tabulated.

SHINTL'MEYSTER, I.; PUMPER, Ye.Ya., red.; IOFE, Yu.M., red.; MURASHOVA,
    N.Ya., tekhn.red.

[Electron tube as a device for physical measurements] Elektronnaia
lampa kak pribor dlia fizicheskikh izmerenii. Moskva, Gos.izd-vo
tekhniko-teoret.lit-ry, 1959. 343 p.   (MIRA 12:12)
    (Electron tubes)   (Electric measurements)

IOFF, I.G. [deceased]; TIFLOV, V. Ye.; FEDINA, O.A. [deceased]

List of flea species (Suctoria) in Stavropol Territory. Mat. k
pozn. fauny i flory SSSR. Otd. zool. no.39:24-30 '64.

(MIRA 17:6)

IOFF, Ivan Grigor'yevich; MIKULIN, Mitrofan Alekseyevich;
    SKALON, Ol'ga Ivanovna; OLSUF'YEV, N.G., red.

    [Guide to the fleas of Central Asia and Kazakhstan] Opre-
    delitel' blokh Srednei Azii i Kazakhstana. Moskva, Me-
    ditsina, 1965. 369 p.   (MIRA 18:7)

IOFF, Nikolay Abramovich   DECEASED   1963/
                                  c. '62   / 4

     Embryology - invertebrates

TUV, I.A., kand.tekhn.nauk; IOFF, U.M., inzh.

Efficiency of burning watery fuel oils. Proizv.-tekh. sobr. no.3:3-
19 '59.   (MIRA 13:10)

1. Leningradskiy institut vodnogo transporta.
    (Petroleum as fuel)   (Marine engines—Combustion)

TUV, I.A., kand. tekhn. nauk; IOFF, U.M., inzh.

    Utilizing heavily watered fuel oils as boiler fuel. Rech. trans.
18 no.8:29-32 Ag '59.   (MIRA 12:12)
            (Petroleum as fuel)

TUV, I.A.; IOFF, U.M.; RZHAVSKIY, Ye.L.

Using fuel oils with a high water content and fuel oil sludge
as boiler oil. Neft.khoz. 37 no.12:44-49 D '59.

(MIRA 13:5)

(Fuel oil)

MLODZEYEVSKIY, A.B., prof.; IOFE, Yu.M., red.; SIPELESA, A.I., tekhn. red.

[Lecture demonstrations in physics] Lektsionnye demonstratsii po fi-
zike. Moskva, Gos. izd-vo tekhniko-teoret. lit-ry. No.1. [General
instructions, molecular physics, and thermodynamics] Obshchie ukaza-
zaniia, molekuliarnaia fizika i termodinamika. 1948. 170 p.

(MIRA 14:7)

(Physics--Experiments)

IOFF, N.A. (Moskva)

The cancer problem in the light of embryological data. Arkh.pat.
20 no.1:12-22 '58.   (MIRA 13:12)

1. Iz kafedry embriologii Moskovskogo gosudarstvennogo universiteta
imeni Lomonosova.
                        (CANCER)

IOFFA, I. A.

Vosstanovlenie instrumenta. Iz opyta Uralmashzavoda. (Novatory proizvodstva) /Reconditioning tools; from experience of the Ural Heavy Machinery Factory (innovators of production)/. Mashgiz, Moskva-Sverdlovsk, 1953. 32 p.

SO: Monthly List of Russian Accessions, Vol. 7 No. 1 April 1954.

IOFFA, L. Ye.

IOFFA, L. Ye. - "Cities in the Urals." Sub 28 Mar 52, Moscow
    Order of Lenin State U imeni M. V. Lomonosov. (Dissertation
    for the Degree of Candidate in Geographical Sciences).

SO: Vechernaya Moskva January-December 1952

IOFFE, A.

CA

The problem of the filtration of water in a heterogeneous medium. A. Ioffe. Tech. Phys. U.S.S.R. 1, 403-16 (1934)(in English); J. Tech. Phys. (U.S.S.R.) 5, 137-50(1935)(in Russian). Theoretical math.
F. H. Rathmann

14

METALLURGICAL LITERATURE CLASSIFICATION

IOFFE, Anne

3

Photoelectromotive forces in cuprite crystals. Anne
Ioffe and A. F. Ioffe.   Physik. Z. Sowjetunion 7, 347 (1935)
(in German; cf. C. A. 29, 7141).--These forces are caused by a
difference in escape of electrons at the electrodes and a flow
of electrons away from the illuminated area.   The illumi-
nated areas have greater (+e, potentials.   Consistent
results are obtained only with transparent electrodes.
The diffusion theory of this effect does not agree with
expt.; the reasons for this are discussed.   New formulas
derived by the authors agree with expt.   A. N. F. D.

METALLURGICAL LITERATURE CLASSIFICATION

$I o F F e. A.$

USSR/Processes and Equipment for Chemical Industries.   K-1
          Processes and Apparatus for Chemical Technology

Abs Jour   : Referat Zhur - Khimiya, No 9, 1957, 33252

Author   : Ioffe, A., Stil'bans, L., Iordanishvili, Ye.,
             Fedorovich, A.
Inst   :
Title   : Thermoelectric Cooling in Refrigeration Engineering

Orig Pub   : Kholodil'naya tekhnika, 1956, No 3, 5-16

Abstract   : A brief consideration of the physical phenomena upon which
             the thermoelectric cooling is based, and a presentation
             of the fundamental propositions of the theory of A.I.
             Ioffe. A formula is given for determination of the refri-
             geration coefficient $\mathcal{E}$, from which it follows that $\mathcal{E}$
             does not depend on geometrical dimensions and shape of
             the thermoelements but is determined by the physical cha-
             racteristics of semiconductor materials (thermal and elec-
             tric conductivity, thermo e.m.f. of thermoelement branches)

Card 1/2

USSR/Processes and Equipment for Chemical Industries -   K-1
          Processes and Apparatus for Chemical Technology

Abs Jour   : Ref Zhur - Khimiya, No 9, 1957, 33252

             and the temperature of hot and cold junctions t_2 and t_x;
             with increase of $\Delta t = t_2 - t_x$ the $\mathcal{E}$ is greatly decrea-
             sed and at a certain value Δt_{max} it becomes equal to
             zero. In order to increase $\mathcal{E}$ it is necessary to use mul-
             ticascade system cooling, in which several batteries are
             utilized, each of which operates at a lower Δt and, con-
             sequently, at a higher $\mathcal{E}$. A brief description is given
             of thermo-electric refrigerators with batteries made from
             PbTe - PbSe alloys (negative branch) and an alloy based
             on Te and Sb (positive branch); Experience has shown that
             in the case of such batteries $\Delta t_{max} = 47°$. Difficulties
             arise in the selection of electric insulation interlayers
             between the cascades which must have a sufficiently high
             heat conductivity. It was found that the best interlayer
             is one consisting of FG-9 silicone lacquer containing a
             6% addition of Al powder.

Card 2/2

PLETNEV, A., inzh.; IOFFE, A., starshiy nauchnyy sotrudnik

Investigating binding and wall materials from the Nal'chik vol-
canic ashes. Sbor. nauch. soob. NIIsel'stroia no.2:78-87 '60.
(MIRA 15:5)

(Nal'chik region--Volcanic ash, tuff, etc.)
(Construction materials)

IOFFE, A. (Leningrad); DOBRONRAVOV, N. (Leningrad)

Observations concerning the spreading of X-ray impulses. Magy fiz
folyoir 8 no.3:255-258 '60.   (EEAI 10:1)
        (X-rays)

18.1246
15.2240

AUTHORS: Fedorov, P. I., Ioffe, A. A.

TITLE: On lithium-silicon alloys

TEXT: To complete data on the lithium-silicon system presented by H. Böhm, the authors have published data obtained by thermal and microstructural analysis of the system. The initial materials were lithium of 98.5% purity containing iron, aluminum 0.8% Na, 0.2% K and 0.2% Mg and silicon of 98.5% purity containing iron, aluminum and calcium admixtures. The microstructural analysis was made with slow-cooled and cast alloys, produced in a special device. Results of the thermal analysis are tabulated and a constitutional diagram is given (Figure 2). The liquidus consists of three lines. Lines AB and BC correspond to the crystallization of two Li_4Si modifications from the melt, designed as β and β', and line DC corresponds to the crystallization of phase γ with a higher Si content, which obviously corresponds to Li_2Si silicide described in literature. The AK horizontal is an eutectic line. Interruptions on the cooling curves corresponding to this

Card 1/1 2

On lithium-silicon alloys

34139
S/149/62/000/001/008/009
A006/A101

line are observed at 182°C, whereas the lithium employed has a melting tempera-
ture of 185°C. Lithium silicide Li_4Si dissociates at 636°C by a peritectic re-
action (line CEF). Horizontals BG and HI are apparently associated with the
polymorphous transformation of this silicide. Line BG is an eutectoid and HI a
peritectoid line. The homogeneous range of the β-phase extends from about 49 to
53 weight %. The composition point of Li_4Si (50.3 weight % Si) is located within
this range. Alloys containing over 50% Si are heterogeneous. The density of
Li_4Si is equal to 1.16 - 1.17. The chemical properties of lithium silicide were
established by investigating the behavior of the alloy in respect to dry air,
water, sulfur, liquid bromine, and other substances. There are 4 figures, 1 table
and 8 references, 2 Soviet-bloc and 6 non-Soviet-bloc.

ASSOCIATIONS: Moskovskiy institut tonkoy khimicheskoy tekhnologii (Moscow Insti-
tute of Fine Chemical Technology) Kafedra khimii i tekhnologii red-
kikh i rasseyannykh elementov (Department of Chemistry and Tech-
nology of Rare and Dispersed Elements)

SUBMITTED: February 22, 1961

Card 2/1 2

BATALOV, Nikolay Mikhaylovich; BELYY, Balentin Antonovich; IONIN, Aleksandr
Borisovich; RABINOVICH, Aron Abramovich; SINAYSKIY, Mikhail
Mikhaylovich; IVANOV, V.M., red.; VORONIN, K.P., tekhn.red.

[Electric motors for cranes and metallurgical plants; theory,
construction, use] Kranovo-metallurgicheskie elektrodvigateli;
teoriia, konstruktsiia, primenenie. Pod obshchei red. A.A.Rabino-
vicha. Moskva, Gos. energ. izd-vo, 1958. 168 p.   (MIRA 11:5)
    (Electric motors)

USSR/Currents, Electric - Direct   Jul 1947
    Motors, Electric

"Computations for Direct Current Machines,"
A. B. Ioffe, 4 pp

"Vest Elektro Prom" No 7

Passage of current dispersed in the frontal parts
of commutator cells under magnetic or non-magnetic
bands. Reaction of rotors in machines with weak
fields working under large overloads. The size
of an ideal polar arc. Size of ampere - turn
casing. The uni-polar system of excitation.
Mechanical voltage in heads of cells of TaBs.

                                        16786

IOFFE, A.B., kandidat tekhnicheskikh nauk.

Magnetic characteristics of auxiliary poles. Vest.elektroprom. 18 no.12:
8-12 D '47.   (MLRA 6:12)

1. Zavod "Dinamo" im. S.M.Kirova.
          (Electric motors--Design and construction)

IOFFE, A.B., kandidat tekhnicheskikh nauk.

New method of computing commutation losses in direct current machines.
Vest.elektroprom. 19 no.3:20-21 Mr '48.   (MLRA 6:12)

1. Zavod "Dinamo" im. S.M.Kirova.

(Commutation (Electricity))

IOFFE, A-B.

S A

PROCESSES AND PROPERTIES INDEX

3416. Determination of the volume of cooling air in friction machines. IOFFE, A. B. Vestn. Elektrozom., 28 (No. 4) 1-4 (Apr, 1957) 30° Russian. — A simplified treatment, based on elementary fan theory and empirical data gained on standard flaviet types of friction motors.

METALLURGICAL LITERATURE CLASSIFICATION
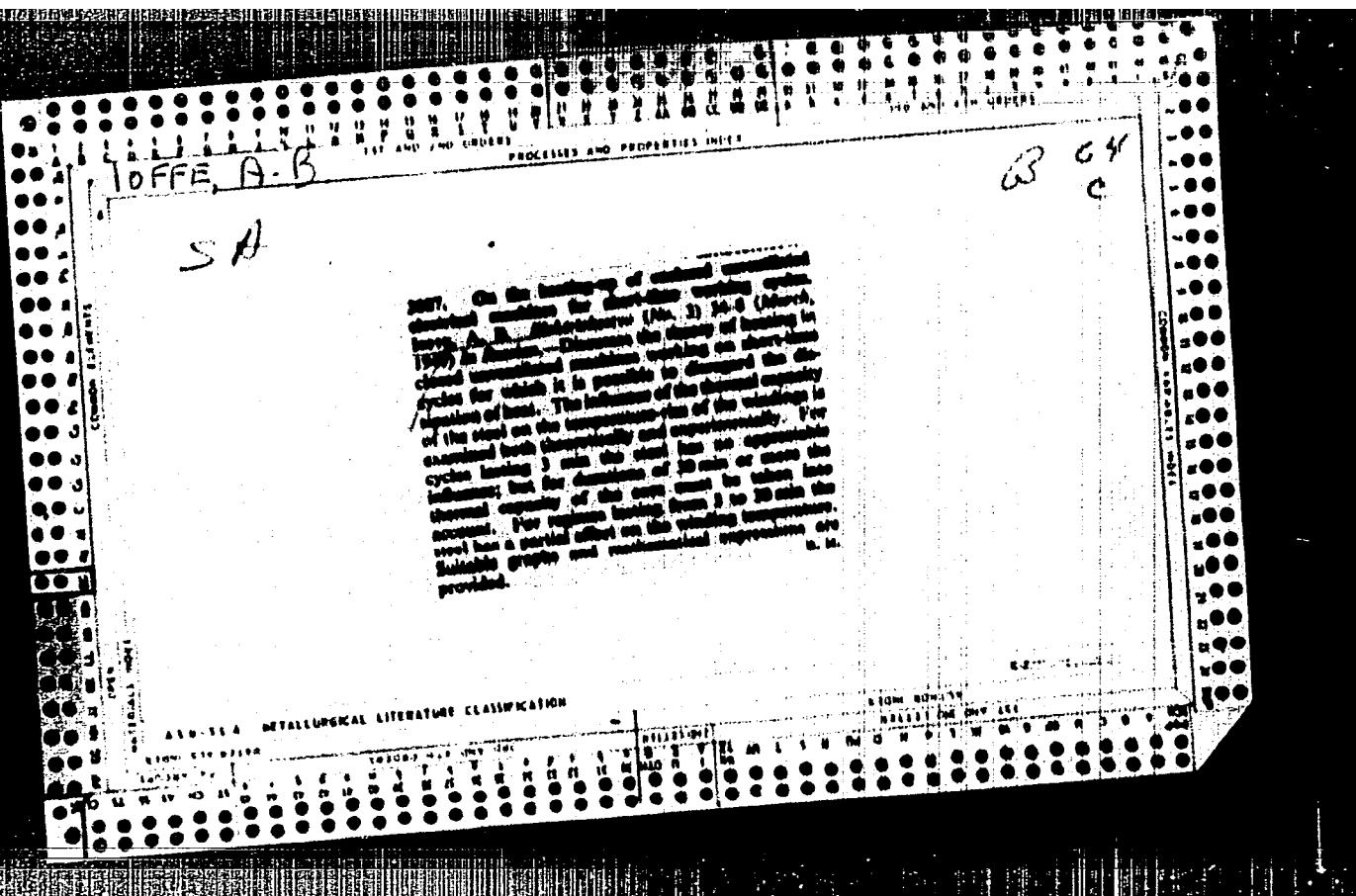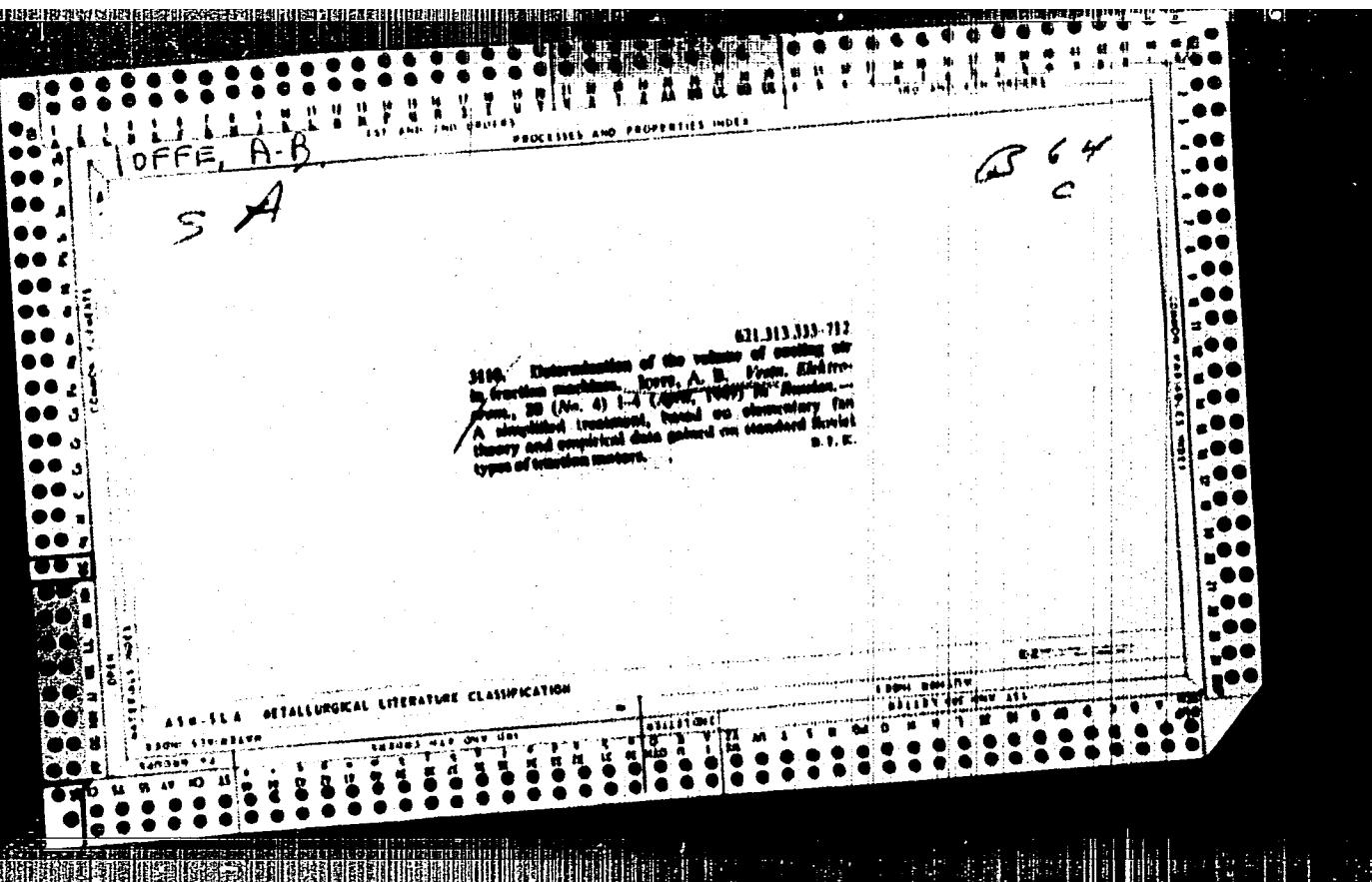
IOFFE, A. E.

33122

Znacheniya Koefitsiyentov Teplootdachi Aktivnykh Chastey Zakrytykh Elektricheskikh Mashin. Vestnik Elektroprom-Sti, 1949, No 10, o. 1-6

SO: Letopis' Zhurnal'nykh Statey, Vol. 45, Moskva, 1949

IOFFE, A.B.

SA

METALLURGICAL LITERATURE CLASSIFICATION
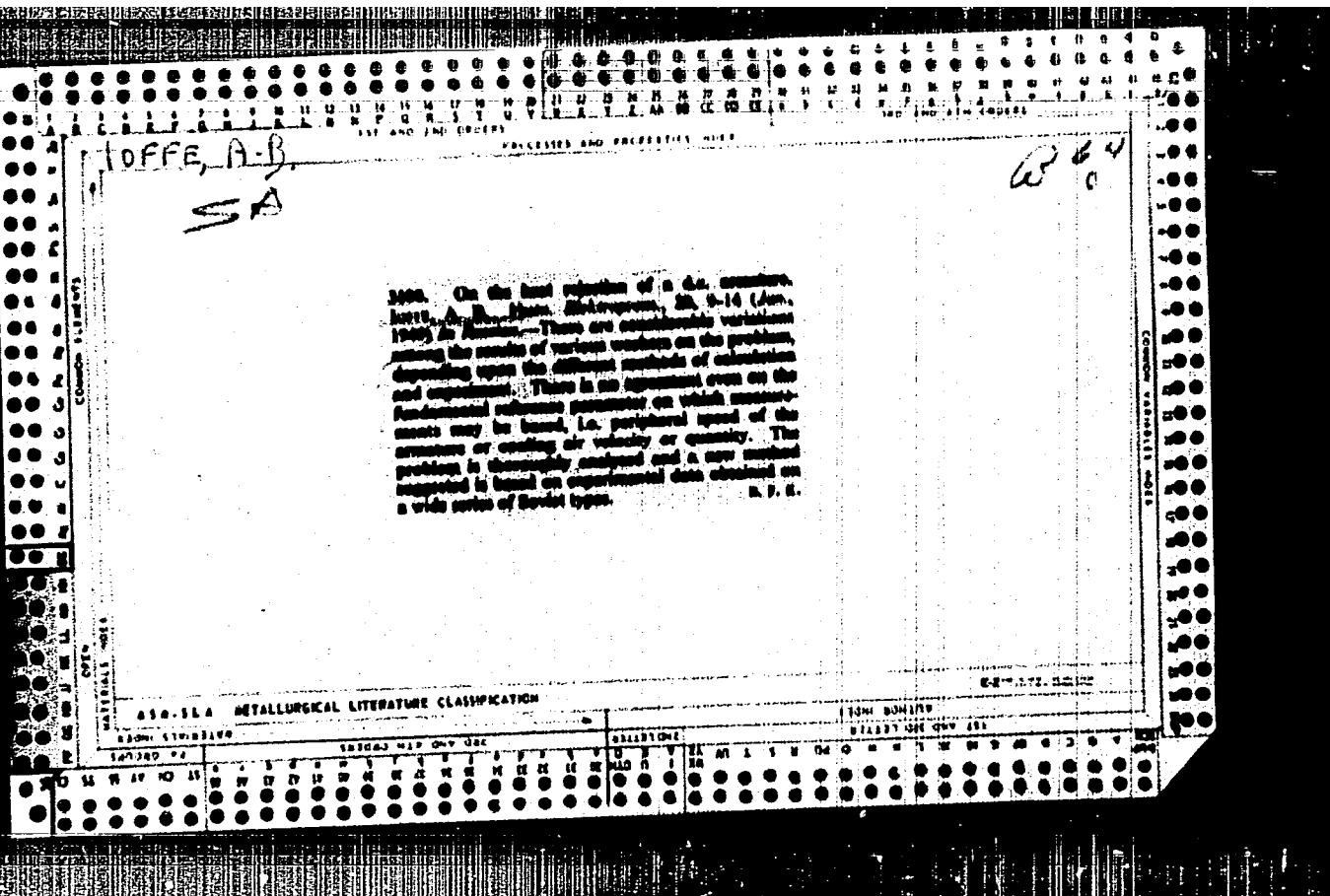
IOFFE, A. B.

Electrical Engineering Abstracts
May 1954
Machines.

184. Potential conditions on the commutator of h.v. traction motors and measures for improving them. A. B. Ioffe. *Elektrichestvo*, 1954, No. 1, 42-5. *In Russian.*

For the motor-units or coaches on Soviet railways with 3300 V operating voltage, series-connected pairs of motors of 1650 V, terminal voltage are used. Manufacture of these motors is difficult owing to the comparative smallness of the wheel diameters of the coaches (1050 mm), the armature diameter being limited to 440 mm and the collector to 380 mm. On the latter not more than 301 segments can be accommodated, so that the voltage between bars is 22 V. The difficult operating conditions of axle-suspended traction motors further complicate the potential conditions on the commutator. The author analyses the various causes of commutator flashovers on the basis of experimental potential curves and derives design principles for such motors based on the voltage per running cm of commutator periphery and voltage between bars, as well as the field distortion caused by armature reaction and on pole enclosure and theoretical air gap. The potential curve of the commutator can thus be predicted and if need be modified at the design stage and the danger of flashovers thereby reduced. Since this requirement is to some degree incompatible with the need for using the motors for power braking (railcatures or regulations), a compromise has to be found, which the author presents in its essentials, in the form of characteristics of 1650 V and 825 V motors.   B. F. KRAUS

IOFFE, Aleksandr Borisovich; IVANOV, V.M., redaktor. ;LARIONOV, G.Ye.,
tekhnicheskiy redaktor.

[Electric traction machinery; theory, construction, design] Tiagovye
elektricheskie mashiny; teoriia, konstruktsiia, proektirovanie. Mo-
skva, Gos.energ.izd-vo, 1957. 247 p.   (MLRA 10:5)
        (Electric locomotives)

110-7-9/30

AUTHOR: Ioffe A.B. (Cand.Tech.Sci.)

TITLE: Concerning a traction motor for new motor coach sections. (O tyagovom elektrodvigatele dlya novykh motorvagonnykh sektsiy.)

PERIODICAL: "Vestnik Elektropromyshlennosti" (Journal of the Electrical Industry), Vol.28, No.7, 1957, pp.30-33 (USSR)

ABSTRACT: At the present time a new series of motor coach sections type CH has been built and tested and preparations are being made for the output of further sections. Design work continues on the improvement of individual items of equipment. The first part of the article explains the difficult conditions of operation of traction motors particularly in respect of exposure to dirt and water and mechanical shocks. The limitations on commutator design are explained. The decision that was taken after the war to electrify suburban railways at 3000 volts called for the development of a new electric motor to replace machine type ДПМ-152 which was designed for 750/1500 V. Since the actual coaches and bogies were not changed the new electric motor type AK-103 had to be no bigger than machine type ДПМ-152 and so it had to be almost a true octagon in shape. (Fig.1). Therefore, the armature and commutator had to be

Card
1/3

Concerning a traction motor for new motor coach sections.
(Cont.)   110-7-9/30

of relatively small diameter. A number of design feat-
ures and improvements that were made to motor type AK-103
are listed. They have ensured its satisfactory operation
in service. However, it was undoubtedly necessary to im-
prove the working conditions of the motor.

Apart from the possibility of using a 750-3000 V machine
there was no possibility of making a radical improvement
in the motor design with the given bogie. Work was started
in 1951 on the design of a new motor type AK-106 intended
for the new motor coach sections type CH. This motor,
illustrated in Fig.4, is of 200 kW output at 830/1140 rpm
(full and weakened field). The commutator diameter is
460 mm and the armature diameter 520 mm. This increase in
commutator diameter for a given frame diameter was possible
because the frame was made square. The maximum voltage
between commutator bars in machine type AK-106 is 39 V. The
voltage per centimeter of commutator circumference is 15%
lower than in motor type AK-103. Tests on motor type
AK-106 both on the bench and in a train provided general
confirmation of the correctness of the design principles
adopted. The specific weight of motor type AK-106 is

Card
2/3

Concerning a traction motor for new motor coach sections.
(Cont.)   110-7-9/30

11.0 kg/kW as against 15 kg/kW for type AK-103. Improvement
in the method of connecting the motor to the wheels is
suggested. It is also important to develop regenerative
braking for motor coach sections, which in practice will
only be possible by adopting the author's suggestion to
use motors of 750/3000 V.

There are 4 figures and 2 Slavic references.

ASSOCIATION: Dinamo Works. (Zavod "Dinamo")'.

AVAILABLE:

Card 3/3

IOFFE, A.B., kand.tekhn.nauk.

Some problems of calculating binding coils for electric machines.
Vest.elektromprom. 28 no.8:17-19 Ag '57.   (MIRA 10:10)

1.Zavod "Dinamo."

                    (Electric motors)

SOV/110-59-6-10/24

AUTHOR: Ioffe, A.B., Candidate of Technical Sciences

TITLE: Calculation of the Quality of Commutation of a Direct
               Current Motor with Pulsating Voltage Supply (O raschete
               kachestva kommutatsii elektrodvigatelya postoyannogo
               toka, pitayemogo ot pul'siruyushchego napryazheniya)

ABSTRACT: Traction motors supplied by semiconductor rectifiers look
             promising for electric locomotives. With this type of
             supply the voltage applied to the machine is pulsating,
             and may be considered as the sum of a d.c. component and
             a second-harmonic a.c. component as indicated in Fig 1.
             In most practical cases the motor field winding is shunted
             by active resistance through which the second harmonic
             current passes and so there is practically no pulsation
             in the machine field current. There is, however,
             appreciable pulsation of the mmf of the interpole because
             pulsating current flows through the inter-pole windings.
             It causes eddy-currents in the inter-pole core and the
             frame, which upset the balance between reactive and
Card 1/4   commutating emf's because the change in flux of the

SOV/110-59-6-10/24

Calculation of the Quality of Commutation of a Direct Current Motor with Pulsating Voltage Supply

inter-pole lags behind the change in current. This causes sparking at the brushes. Mathematical analysis of these processes, which was first given by S.A.Petrov, is very complicated and the object of this article is to give a relatively simple and practical method of calculating the value of the inter-pole flux of a d.c. motor supplied by a pulsating voltage. The distribution of the magnetic flux in the solid core can be expressed by Eq (5) or the curve of Fig 2. The depth of penetration of the flux into the core, Δ is determined from Eq (7). The permeability is influenced by the presence of the main d.c. field. Expression (8) is then given for the permeability of the inter-pole core and expression (9) for that of the machine frame. A method of successive approximations is used by selecting values for the induction under the inter-pole and the alternating component of the current. Expression (18) is then derived for the magnetising force and expression (19) for the pulsating component of the current where the number of turns on the inter-pole is given by expression (20). If

Card 2/4

SOV/110-59-6-10/24

Calculation of the Quality of Commutation of a Direct Current Motor
with Pulsating Voltage Supply

at the end of the calculation the current does not work
out to the assumed value the calculation is repeated
until satisfactory agreement is reached. Having found
the induction under the inter-pole it is possible to
determine the commutating emf: comparison with the
reactive emf corresponding to the pulsating component
of the current then indicates the degree of under-
compensation. To determine the intensity of the
consequent sparking in this case it is recommended to use
the empirical graph in Fig 4. Here sparking is shown as
a function of the remanent emf in the section of the
winding short-circuited by the brush. Calculations by
this procedure show that induction under the inter-poles
is usually negative. It is shown that it does not help
to increase the section of the inter-pole and the
introduction of a second air-gap in the inter-pole has
little effect. It may help to laminate the inter-pole
but the effectiveness of this measure is reduced because
Card 3/4   the machine frame is solid. By way of example, a numerical

SOV/110-59-6-10/24

Calculation of the Quality of Commutation of a Direct Current Motor
with Pulsating Voltage Supply

        calculation is made of the induction under the inter-pole
        due to the second harmonic for an electric motor
        type KPDN4U, on which S.A.Petrov obtained his experimental
        data. There are 4 figures and 3 Soviet references.

Card 4/4

IOFFE, A.B., kand.tekhn.nauk

Single-phase traction commutator motor with raised transformer
e.m.f. Vest.elektroprom. 31 no.1:68-70 Ja '60.
(MIRA 13:5)

(Electric railway motors)

IOFFE, A.B., kand.tekhn.nauk

New series of MT000-700 a.c. electric motors for electric cranes
and metallurgical plants. Vest. elektroprom. 32 no.7:6-9 Jl '61.
(MIRA 14:10)

(Electric motors, Alternating current)

TRAKHTMAN, I.M.; IOFFE, A.B.; CHERNYY, M.I.; KUZNETSOV, S.M.; SOLOV'YEV, N.
        P.; DOROGUSH, G.I.; KAPUSTIN, L.D.; VINBERG, B.G.; RUBCHINSKIY, Z.
        M.; PETRO, G.A.; ZAGORDAN, N.M.; BRAVIN, V.F.

        Multiple-unit rail car with regenerative braking. Prom. enerp. 15
                                                                (MIRA 14:9)
        no.11:18-19 N '60.
                (Railroad motorcars) (Electric railway motors)

IOFFE, Aleksandr Borisovich; NAKHODKIN, H.D., doktor tekhn. nauk,
     retsenzent; IVANOV, V.M., inzh., red.

     [Electric traction machines; theory, construction and
     design] Tiagovye elektricheskie mashiny; teoriia, kon-
     struktsiia, proektirovanie. izd.2., perer. i dop. Mo-
     skva, Energiia, 1965. 231 p.   (MIRA 18:3)

L 37654-66   EWT(d)   IJP(c)   SOURCE CODE: UR/0020/66/168/002/0269/0272

ACC NR: AP6015601

AUTHOR: Ioffe, A. D.

ORG: none

TITLE: Transforms of properly formulated variational problems

SOURCE: AN SSSR. Doklady, v. 168, no. 2, 1966, 269-272

TOPIC TAGS: differential equation, vector, mathematic space, mathematic transformation, sequence

ABSTRACT: The following differential equation and functional operator are considered:

$$dy/dt = f(t, y, u)$$

$$I(y) = \int_a^b F(t, y, u) dt$$

where t is a scalar; y an n-dimensional vector; and u a point of the metric compactum U. The functions $f(t, y, u)$ and $F(t, y, u)$ are continuous in $[a, b] \times R^n \times U$ and continuously differentiable with respect to y. Two problems are formulated: (A) to find $\inf_D I(y)$; and (B) to determine $\inf \int_a^b F(t, y, \dot{y}) dt$

in $\{D_0 = \{y(t) \in C^n_{[a, b]}, y(a) = y_0, y(b) = y_1, \dot{y}(t) \in Q(t, y)\};$

UDC: 519.31/33

Card 1/2

L 37654-66

ACC NR: AP6015601

If problem A is properly formulated, then problems A and B are equivalent. D_0 is the closure of D in $C^n_{[a, b]}$:

$$\inf_{D} I(y) = \inf_{D_0} \int_a^b F(t, y, \dot{y}) dt;$$

if the sequence $y_m(t) \in D$ minimizes $I(y)$ in D, then it is a minimizing sequence for problem B. Conversely, for any sequence that minimizes $\int_a^b F(t, y, \dot{y}) dt$ in D_0 there exists a cofinal to it in $C^n_{[a, b]}$, which minimizes $I(y)$ in D. If D is compact in $C^n_{[a, b]}$, then $\inf \int_a^b F(t, y, \dot{y}) dt$ is attained on some $\bar{y}(t) \in D_0$, and in D there exists a sequence $y_m(t) \to \bar{y}(t)$ such that $\lim_{m \to \infty} I(y_m) = \int_a^b F(t, \bar{y}(t), \dot{\bar{y}}(t)) dt$. Two examples are introduced. The author thanks V. M. Tikhomirov for valuable discussions and advice. This paper was presented by Academician A. N. Kolmogorov on 27 August 1965. Orig. art. has: 10 formulas.

SUB CODE: 12/ SUBM DATE: 26Jul65/ ORIG REF: 004

Card 2/2

5.3400   2209

AUTHORS: Khcheyan, Kh. Ye., Ioffe, A. E. and Pavlichev, A. F.

TITLE: Synthesis of phenylene diacetic acids and their amides

PERIODICAL: Zhurnal prikladnoy khimii, v.35, no.1, 1962, 206-209

TEXT: This investigation was carried out in view of the wide appli-
cability of phenylene diacetic acids and because the methods of
synthesis hitherto reported were thought to comprise practical dif-
ficulties. The preparation of p- and m-phenylene diacetic acids and
their diamides was studied, from the corresponding diacetyl benze-
nes, by Vil'gerodt's reaction, e.g.:

Card 1/4
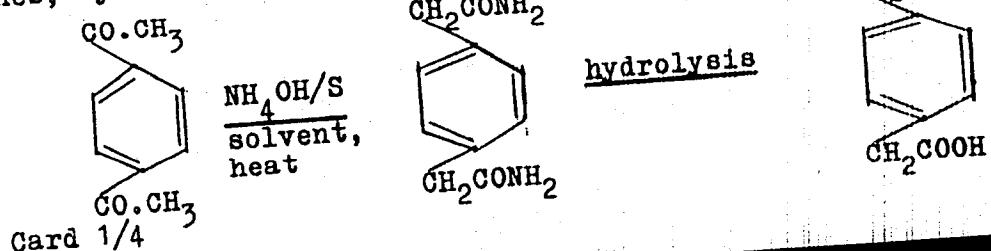
32398
S/080/62/035/001/011/013
Synthesis of phenylene ...   D204/D304

The reactions were conducted in an autoclave, using either sulphur
and 26% NH_4OH or NH_4^+ polysulphide, in pyridine, over 4.45 hours at
155 - 165°C, under a pressure of 15 - 20 atm. With ammonium poly-
sulphide the yields reached 95%, but were decreased by shortening
the reaction time and by changing the temperature or the ratio of
the reactants. It was shown that the sulphur could be regenerated
and re-used. A direct preparation by acid or alkaline hydrolysis
of the reaction mass, without separating the amide, and using
S/NH_4OH, was also achieved, with 85-90% yields. The latter were re-
duced to 70 - 75% when methanol was used in place of pyridine and
to 40 - 50% when the reactions took place at 210 - 220°C in the ab-
sence of a solvent. Phenylene diacetic acids were also prepared by
the Vil'gerodt-Kindler reaction, using morpholine and S, obtaining
80 - 85% and 70 - 75% yields of the p- and m-isomers respectively.
The preparations were conducted at the b.p. of morpholine. The fol-
lowing conditions were carried out: (a) Reaction times (1 - 4 hrs),
(b) diacetyl benzene : morpholine : sulphur ratio (1 : 4: 4), (c)
duration of the alkaline hydrolysis (9 - 16 hours) and (d) con-

Card 2/4

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D204/D304

Synthesis of phenylene ...

centration of the hydrolyzing alkaline solution (10 - 20%). It was found that the reduction of the reaction time to 1 hour, reactant-ratio to 1 : 2 : 2 and alkali concentration to 10% lowered the yields to 25 - 50%. The starting materials (diacetyl benzenes) were obtained by the aerial, liquid-phase oxidation of a mixture of ethyl benzenes at 130 - 140°C, using Co oleate and iso-propyl ben-zene hydrogen peroxide as the catalysts. All experimental details are given in full. The process is considered to be simple and eco-nomical and capable of utilization on an industrial scale. There are 1 figure and 25 references: 5 Soviet-bloc and 20 non-Soviet-bloc. The 4 most recent references to the English-language publica-tions read as follows: Sh. Murahashi and R. Anzai, Ch. A., 44, 11106, (1950); O. B. Edgar and R. Hill, J. Pol. Sci., 8, 1, (1952); P. V. Smith and F. Knoth, U.S. Pat. 2,570,038, (1951); K. Schofield and R. S. Theobald, J. Chem. Soc., 2404, (1949).

ASSOCIATION: Nauchno-issledovatel'skiy institut sinteticheskikh
              spirtov (Scientific research Institute of Synthetic
              Alcohols)

Card 3/4

32398
S/080/62/035/001/011/013
D204/D304

Synthesis of phenylene ...

SUBMITTED: February 24, 1961

Card 4/4

YAKOBSON, G.G.; IOFFE, A.E.; VOROZHTSOV, mladshiy, N.N.

Alkylation and arylation of aromatic amines in the presence of
metal fluorides. Izv. SO AN SSSR no.3 Ser. khim. nauk no.1:
156-158 '63.   (MIRA 16:8)

1. Novosibirskiy institut organicheskoy khimii Sibirskogo
otdeleniya AN SSSR i Khimiko-tekhnologicheskiy institut im.
D.I. Mendeleyeva, Moskva.
          (Amines)   (Alkylation)   (Arylation)

SUKHNEV, V.A.; ZHUKOVA, L.A.; IOFFE, A.E.; KOLOKOLOVA, N.A.

Two-liquid micromanometer for measuring slight pressure losses
in rarefied gases. Izm. tekh. no.12:17-19 D '63.   (MIRA 16:12)

BAYKOV, S.D.; GAL'PERIN, Yu.F.; IOFFE, A.F.; SHLOKOV, G.N.

Ferrites with rectangular hysteresis loops for electronic-physical
apparatus. Mnogokan. izm. sist. v lad. fiz. no.5:158-164 '63.
(MIRA 16:12)

SOURCE CODE: UR/0058/65/000/011/A027/A027

ACC NR: AR6016154

AUTHOR: Ioffe, A. F.

TITLE: Operating principle of scale circuits for multi-hole cores with magnetic de-coupling

SOURCE: Ref. zh. Fizika, Abs. 11A279

REF SOURCE: Tr. 6-y Nauchno-tekhn. konferentsii po yadern. radioelektron. T. 1. M., Atomizdat, 1964, 208-222

TOPIC TAGS: computer memory, magnetic core storage, computer storage device

ABSTRACT: Scaler circuits with transformer-fluxors (T), used for the construction of apparatus that operates reliably at a high level of penetrating radiation, are considered. Several scaler circuits are proposed, which are analyzed from the point of view of obtaining the maximum volume and the counting rate with minimum number of T and timing generators, uniform distribution of the load on these generators, and minimum total power consumption by the circuit. A magnetic-flipflop circuit is described with a counting input using 5-hole T's. The flip-flop consists of four T's. A binary scaler circuit, constructed with such flip-flops and a scaler factor 2^n, uses a total of $4n$ T's. Single-step and push-pull ring scaler circuits are described, and also scaler circuits with logical feedback. Circuits of the latter type are of particular interest since the binary cell contains 4 times more cores than the ring cell. From a comparison of all the circuits considered it follows that the most suitable for the

Card 1/2

ACC NR: AR6016154

construction is the single-step ring circuit with logical feedback; this circuit has the largest scaler factor with a small number of T's and of timing generators. B. Ol'khov [Translation of abstract]

SUB CODE: 09

Card 2/2

L 47119-66   EWT(1)   TG

ACC NR: AR6016022   SOURCE CODE: UR/0271/66/000/001/B026/B026

AUTHOR: Ioffe, A. F.

32

B

TITLE: Patterns for designing scaling circuits using multihole cores with magnetic decoupling

SOURCE: Ref. zh. Avtomat. telemekh. i vychisl. tekhn., Abs. 1B182

REF SOURCE: Tr. 6-y Nauchno-tekhn. konferentsii po yadern. radioelektron. T. I. M., Atomizdat, 1964, 208-222

TOPIC TAGS: scaling circuit, trigger circuit, transfluxor, magnetic core, multihole core, magnetic decoupling

ABSTRACT: The paper concerns scaling circuits using transfluxors (T) for designing equipment with reliable operation at a high level of penetrating radiation. Many scaling circuits are proposed which are studied for obtaining maximum count volume and rates with minimum T and system clocks, and with an even load distribution on these clocks and minimum overall requirements for the

Card 1/2   UDC: 681.142:621.374.32

L 47119-66

ACC NR: AR6016022   O

circuit. A magnetic trigger circuit with a digital input using five-hole trans-
fluxors is described. The trigger consists of four T. A binary scaling circuit
utilizing such triggers with a scaling factor of 2^n requires $4n$ T. Single-cycle
and push-pull ring scaling circuits, as well as logic feedback ring circuits, are
described. The logic circuits are of special interest as a binary cell has four
times as many cores as a ring circuit. Comparison of the various circuits in
question leads to the conclusion that a single-cycle ring circuit with a logic feed-
back is the most advantageous becasue it has a small number of T and clocks
and a high scaling factor. Orig. art. has: 9 figures and a bibliography of 12
titles. [Translation of abstract]   [DW]

SUB CODE: 09/

Card   2/2

L 39483-66   EWT(d)/EWP(1)   IJP(c)"   GG/BB/GD/GS

ACC NR: AT6002990   SOURCE CODE: UR/0000/65/000/000/0220/0231

/2
B+1

AUTHOR: Ioffe, A. F.; Kuznetsov, K. F.

ORG: none

TITLE: Transfluxor-type shift register

SOURCE: Vsesoyuznoye soveshchaniye po magnitnym elementam avtomatiki i vychislitel'noy tekhniki. 9th, Yerevan, 1963. Magnitnyye tsifrovyye elementy (Magnetic digital elements); doklady soveshchaniya. Moscow, Izd-vo Nauka, 1965, 220-231

TOPIC TAGS: shift register, transfluxor, magnetic element, computer

ABSTRACT: Based on American sources (D. R. Bennion, H. D. Crane, N. S. Prywes, V. F. Gianola, et al.), generally known information is presented on transfluxors: principle of operation, size, characteristics, circuits. A theory of transfluxor-type shift register is set forth; information-transmission cycle, priming cycle, and reverse-information blocking are analyzed. Formulas for currents, information-transmission optimality, time of operation, and coupling resistance are

Card 1/2

L 39483-66
ACC NR: AT6002990

developed. For experimental verification, a laboratory hookup of the shift register designed with 5-hole transfluxors was tested. It exhibited stable operation at a supply-voltage variation of ±15% and within a temperature range of -10+40C. The high reliability of this slow-operating circuit is noted. Orig. art. has: 18 figures and 40 formulas.

SUB CODE: 09 / SUBM DATE: 23Apr65 / ORIG REF: 001 / OTH REF: 004

Card 2/2 mup

multichannel amplitude analyzers with sequential digit access
The device contains a matrix of three-hole magnetic cores with

An output unit is connected to the "O" reading amplifier

... and of Atomic Energy, ...

IOFFE, A.F., akademik [deceased]

What modern science and technology can give to the North.
Probl. Sev. no.6:95-97 '62.   (MIRA 16:8)

(Russia, Northern—Housing)
(Russia, Northern—Food)

IOFFE, Anatoliy Fedorovich; FILINOV, Yevgeniy Nikolayevich; VIZUN,
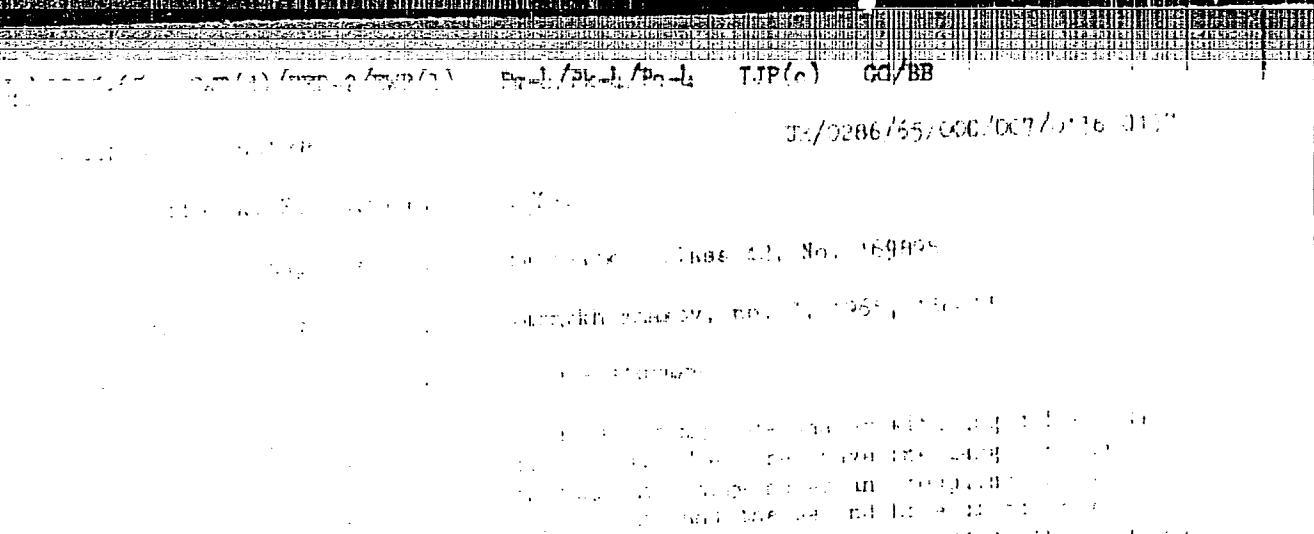   Yu.I., red.; BUL'DYAYEV, N.A., tekhn. red.

    [Measurement of the parameters of ferrite cores having
    rectangular hysteresis loops] Izmerenie parametrov fer-
    fitovykh serdechnikov s priamougol'noi petlei gisterezima.
    Moskva, Gosenergoizdat, 1963. 134 p.   (MIRA 16:9)
        (Ferrates (Magnetic materials)) (Cores (Electricity))

IOFFE, A.F.

Precise measurements of the amplitude characteristics of ferrite
cores with rectangular hysteresis loops. Nauch.-tekh. sbor.Gos.
izd-va lit. v obl. atom.nauki i tekh. no.6:114-121 '63
(MIRA 17:8)

tains parallel code recording coils which pass through a fourth
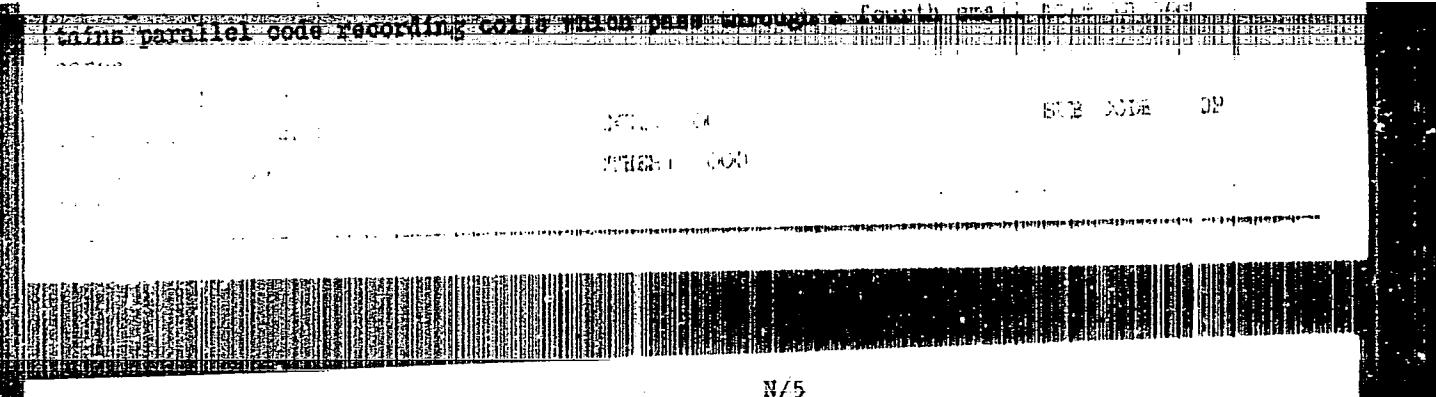
N/5

N/5
613.633
.16

IOFFE, A   G

Poluprovodniki v sovremennoyfizike (Semiconductors in contemporary physics) Moskva, Akademkniga, 1954.

355 p. gra hs.

At head of title: Akademiya Nauk SSSR.

"Osnovaya liter tura po poluprovodnikam": p. 351-352.

GLYAVIN, V.I. (Gor'kiy); NEKHABOV, S.Ya. (Gor'kiy); IOFFE, A.G. (Gor'kiy)

Work practices used in the construction of a water intake.
Vod.i san.tekh, no.2:32-34 F '60.   (MIRA 13:5)
          (Katovo region—Water-supply engineering)

25(6)   SOV/32-25-2-41/78
AUTHORS: Krichmar, S. I., Ovcharenko, V. N., Ioffe, A. I.

TITLE: Automatic Gas Analyzer for the Determination of Inert Gases
                in Ammonia (Avtomaticheskiy gazoanalizator dlya opredeleniya
                inertnykh gazov v ammiake)

PERIODICAL: Zavodskaya Laboratoriya, 1959, Vol 25, Nr 2,
                pp 213 - 215 (USSR)

ABSTRACT: The apparatus described (Fig) permits a continuous inspection
                of the gases used in the production of weak nitric acid. The
                rate of displacement of a constant volume of an absorption
                liquid in a eudiometer by the gases remaining after the ab-
                sorption of ammonia in the absorption liquid is measured. The
                apparatus has electrically operated valves of the KE-2 type,
                an automatically balanced bridge EMD-212, and a synchronous
                motor SD-60 (for turning the timing relais), as well as an
                EPD potentiometer. The inert-gas content is recorded automati-
                cally. A detailed description of the apparatus is contained
                in the article, and it is mentioned that with the EPD
                potentiometer it is necessary to correct the delay, which is
Card 1/2   not true in the case of EPP-09. The total error is given

Automatic Gas Analyzer for the Determination of Inert Gases SOV/32-25-2-41/78
. in Ammonia

as $\pm$ 15%. In experimental operation of the apparatus described
the following conditions were obtained: Pressure of ammonia
at input -500-700 mm water column, gas consumption according
to the manostat - 1.5 1 per hour, duration of analysis -
8 minutes, absorption liquid to be replaced once a week -
3 1 of 25% H_2SO_4, measuring range 0.05-1.5%. A calculation
formula as well as a comparative table of the analysis results
obtained with this apparatus and the results of chemical
analyses are given (Table).There are 1 figure and 1 table.

ASSOCIATION: Dneprodzerzhinskiy azotno-tukovyy zavod (Dneprodzerzhinsk
                Nitrogen-Fertilizer Plant)

Card 2/2

JOFFE, A.I.

83279
S/021/60/000/001/009/013
A158/A029

15.9130

AUTHORS: Ovcharenko, F.D., Corresponding Member of the AS UkrSSR; Blokh, H.
A.; Hudovich, H.V.; Ioffe, A.I.

TITLE: Activated Diatomite - a New Rubber Filler

PERIODICAL: Dopovidi Akademiyi nauk Ukrayins'koyi Radyans'koyi Sotsialistychnoyi
Respubliky, 1960, No. 1, pp. 54 - 59

TEXT: In his other work (Ref. 2) the first author showed that pyrophyl-
lite can be used in the manufacture of rubber cables, yet the strength of rubber
obtained with its use is relatively low (60 kg/cm after 30 - 60 min of vulcaniza-
tion at 145°C), which calls for a strengthening of such fillers through activa-
tion. The authors used the following activating agents: 1) alcamon OC-2 (OS-2),
an activated Crimean diatomite (a quarternary salt of diethylamino-methylglycolic
ether) that increases the strength criteria by 50 - 60% as compared to unactivat-
ed fillers during a short period (only 4 - 10 min instead of 30 - 60 min and more)
and accelerates the process of vulcanization; 2) carbazolin, a quarternary salt
of imidazole derivatives; 3) equalizer A, a preparation of mixed cation-active
and non-ionogen types. The Crimean diatomite consisted of (in %): SiO_2 65.33;

Card 1/2

83279

Activated Diatomite - a New Rubber Filler

S/021/60/000/001/009/013
A158/A029

CaO 2.00; Al_2O_3 15.43; MgO 2.43; Fe_2O_2 5.82; SO_3 1.20; (K, Na) Cl 0.5. Even when alcamon OS-2 was introduced directly on the rollers into a rubber mixture filled with natural diatomite, strengthening of the rubber and acceleration of vulcanization were observed. The indicated positive results should be explained as a change in the chemical nature of the diatomite surface into an organophillic surface, and by the peculiarities of the structure of natural diatomite, which is capable of interacting with the structure of rubber. Table 1 shows chemico-mechanical properties of rubbers obtained with the use of pyrophyllite and diatomite. Table 2 shows the percentage of activating substances in rubbers at various regimes of vulcanization. Table 3 gives the results of the adding alcamon to rubber (in %) under various conditions of vulcanization. There are 3 tables and 3 Soviet references.

ASSOCIATION: Instytut zagal'noyi ta neorganichnoyi khimiyi AN UkrSSR ta Dnipropetrovs'kyy khimiko-tekhnologichnyy instytut (Institute of General and Inorganic Chemistry of the AS UkrSSR and the Dnepropetrovsk Chemico-Technological Institute)

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Card 2/2

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AUTHOR: Levitin, I. A.; Petrova, V. D.; Marchenko, Ye. D.; Ioffe, A. I.

ORG: Moscow Tire Plant (Moskovskiy shinnyy zavod)

TITLE: Development and use of a waxlike antiozonant in automobile tire treads

SOURCE: Kauchuk i rezina, no. 12, 1965, 24-25

TOPIC TAGS: rubber chemical, antioxidant additive, resin, synthetic rubber, vehicle component

ABSTRACT: The Moscow Tire Plant (Moskovskiy shinnyy zavod) and Moscow Petroleum and Oil Refinery (Moskovskiy neftemaslozavod) developed a waxlike antiozonant composed of natural and synthetic ceresin, paraffin, and petrolatum, the content of ceresins being predominant. A thorough study of the new antiozonant, AF-1, was carried out in tread rubbers composed of 100% SKS-30ARKM. The protective properties of AF-1 were found to compare very favorably with those of Antilux, an imported antiozonant. AF-1 has now replaced Antilux at the Moscow Tire Plant, and its use in the tire and rubber industry for protection of rubber treads against ozone cracking is highly recommended. Orig. art. has: 2 figures and 3 tables.

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IOFFE, A.I.

Noncontact indicator of a given displacement with a remote
adjustment. Izm. tekh. no.11:62-63 N '65.   (MIRA 18:12)

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Electric compensation of temperature errors in potentiometric pressure-recording gauges. Izm.tekh.no.3:37-40 My-Je '56.   (MLRA 9:9)
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(Remote control)